R14

0751

Syntex - Verona
Remedial Plan

Grid Area - ave. TCDD .15 ppb
Propose to maintain veg. cover existing

Burn Area - ave. TCDD 6.5 ppb w5 samples above 1 ppb
- Borings detected no lateral TCDD migration
- Maintain veg. cover

Spill Area - ave. TCDD 2.0 ppb
- Currently gravelled (6") and underlain by 10 mil polyethylene sheet
- Proposed to remove the gravel and re-use it in other areas needing remedial actions.
- This spill area will then be backfilled with topsoil to the existing grade and a vegetative cover established.

Irrigation Area - ave. TCDD 4.0 ppb
- Maintain existing veg. cover

Trench Area - max. TCDD 69 ppb
- Recent angle borings underneath trenches did not detect migration downward.
- Proposed that the surface of the trenches be regraded to eliminate surface depressions, a 6" topsoil cover be installed over the trenches and the vegetation be reestablished. The topsoil cover will extend 10 feet past the estimated dimensions of the trenches.
- Angle borings beneath the trenches detected max. conc. of
  TCB - 15.7 ppb
  TCP - 1430 ppb
  HEX - 37.2 ppb
- These levels not considered threat to the environment and no remedial action proposed.
- However topsoil cover proposed will limit any migration by eliminating the surface depressions currently existing above the trenches. Surface depressions cause ponding which enhances infiltration of rainwater. Once the ponding is eliminated, minimal rainwater infiltration will enter the trenches.

Lagoon Area - ave. TCDD 279 ppb
- Perimeter samples have shown that TCDD contamination is not migrating laterally
- 3 alternatives proposed

WSTM:SPFD:SCOM:Barrett:ch:x671:10/16/86:disk #1

SCOM	SCOM	SPFD
BARRETT	SMITH	MORBY

1) Preferred alt. - construction of a 12" topsoil cover and the re establishment of vegetation. (This would effectively reduce ave. TCDD surf conc of entire plant site to approximately .2 ppb.)

2) Second alt. - resampling "hot zone" (an area 50 ft. wide and 100 ft. long) at depths of 0-6" and 6"-12", in order to further define the depth and magnitude of the TCDD contamination. Soils containing 3ppm or more TCDD would be proposed for excavation. The excavation would then continue until 6 additional inches of soil are removed as a buffer. It is proposed to store the soil in place until an approved cost effective technology is found for its ultimate disposal. The in place storage reduces the amt. of handling of the soil, and cost for such as compared to storage in an intermediate facility prior to ultimate disposal. The excavated area would be backfilled with soil, topped with a 6" layer of topsoil, and revegetated.

   If all TCDD levels from the resampling are less than the 3 ppm action level, then the 12" topsoil cover would be installed.

3) Third alt. - This alternative foregoes sampling. Proposes excavation to 2 feet (1.5' from sample results + .5 extra) to assure soil contaminated to 3ppm would be excavated may-be at the expense of excavating quantities of soil below 3ppm. Soil to be stored in place until an approved cost effective technology is found for its ultimate proposal. Excavated area would be backfilled with soil, topped with 6" of topsoil, and revegetated.

Slough Area - max TCDD 8.4 ppb - February 84; ave. TCDD 1.5ppb - Summer 85. Samples 10 ft. offset from banks of slough indicate no TCDD, therefore no spreading due to flooding.
TCDD contaminated sediment could erode from the slough into the Spring River, although fish and sediment data indicate a decrease in TCDD in fish and sediment in recent years.

1) Alt. 1 - no action. If TCDD in fish and sediment samples should increase, alt-no.'s 2-5 would control erosion of slough sediment. Alt. 2 is preferred due to ease of performing the required work and due to its effectiveness in controlling erosion.

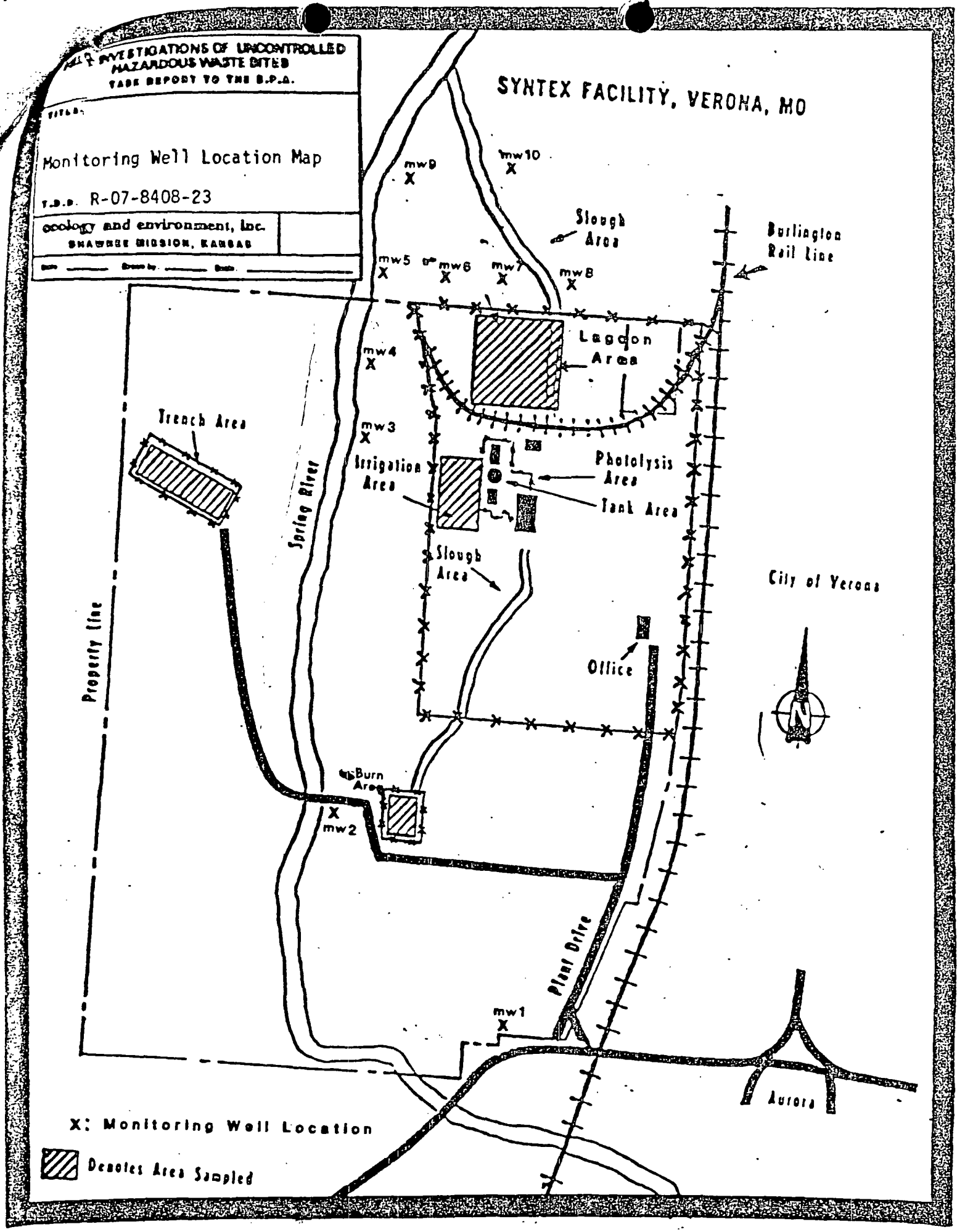
2) Alt. 2 - Placement of 6" layer of crushed stone (one-inch) on the existing slough floor. This layer could be placed in the existing standing water and would not require removal of vegetation and debris. The one-inch stone would ensure that water velocities remain below that required to erode any TCDD-bearing sediment. A 12" layer of larger crushed stone (6") would be placed on top of 1-inch crushed stone.

3) Alt. 3 - Same as 2 except installation of geotextile liner beneath the initial 6" layer of 1" gravel.

4) Alt. 4 - Removal of all vegetation. Geotextile fabric installed under 12" layer of 1" gravel within the slough channel. Slough backfilled with clay and graded, and 6" layer topsoil to support grass cover.

5) Alt. 5 - Removal of vegetation. Slough backfilled with clay, graded, and 6" layer topsoil to support grass cover.

- Alt.'s 3, 4, and 5 would require dewatering the slough, "with water directed downstream in a manner to prevent disturbance of existing downstream sediment.
- Solids removed would be drummed for subsequent disposal if analysis indicates significant TCDD level.
- All alts. would include only the southernmost 1400 ft. of the 1700 ft. long slough, the area where TCDD was detected about 1 ppb, and would include a graded filter at the north end of the remedial work to prevent erosion of the toe of the fill.


INVESTIGATIONS OF UNCONTROLLED HAZARDOUS WASTE SITES
TASK REPORT TO THE E.P.A.
SITE:
Monitoring Well Location Map
T.D.D. R-07-8408-23
ecology and environment, inc.
SHAWNEE MISSION, KANSAS
SYNTEX FACILITY, VERONA, MO
mw9
mw10
Slough Area
Burlington Rail Line
mw5
mw6
mw7
mw8
Lagoon Area
mw4
Trench Area
mw3
Irrigation Area
Photolysis Area
Tank Area
Spring River
Slough Area
City of Verona
Property line
Office
Burn Area
mw2
Plant Drive
mw1
Aurora
X: Monitoring Well Location
Denotes Area Sampled